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Prices and Price Spreads for BEEF, EGGS, and FLUID MILK in Selected Markets of the United States and Europe

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MARKETING ECONOMICS DIVISION
ECONOMIC RESEARCH SERVICE
U. S. DEPARTMENT OF AGRICULTURE

PREFACE

The Economic Research Service, U. S. Department of Agriculture, conducts a broad program of research designed to help meet a need for public information on farm-to-retail price spreads for food. This report is based on research studies of price spreads for beef, eggs, and milk in the United States and in member countries of the Organization for European Economic Cooperation.

Price spreads are used as a basis for comparing efficiency among countries in the marketing of animal products. Farm-to-retail price spreads and retail prices are compared on the basis of dollar amounts and of equivalent labor-time requirements.

The farm-to-retail price spread is the difference between the retail price of a product and its farm value--the payment to farmers for an equivalent quantity of farm products. Components of the farm-to-retail price spread used in this report are: (1) Retail-store price spread--the difference between the price to consumers in retail stores for a product and the price paid by retailers; and (2) farm-to-retailer price spread--the difference between the price paid by retailers for a product and its farm value.

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Washington, D. C. December 1961

Growth Through Agricultural Progress

SUMMARY

Prices and price spreads for marketing beef, eggs, and milk, when expressed in terms of labor-time required for industrial workers to earn an equivalent amount of money, are generally lower in the United States than in member countries of the Organization for European Economic Cooperation. Labor-time equivalents of actual prices and price spreads for beef, eggs, and milk in each of the countries are used to compare the purchasing power of industrial workers.

Consumers in the United States fare better than those in the O.E.E.C. countries, when it comes to getting a lot for the money they spend on animal products. U. S. consumers pay comparatively low prices--relative to purchasing power--and get good products with many built-in marketing services.

Farmers received higher prices in the United States for beef, eggs, and milk than in most of the O.E.E.C. countries.

Actual retail prices and price spreads for these animal products generally averaged higher for the United States than for the O.E.E.C. countries. Prices and price spreads for eggs among individual markets in the United States, however, were within the range of comparable data reported for the O.E.E.C. markets.

Retail-store policies have considerable influence on retail prices and price spreads for individual commodities in U. S. cities. Retailers in some O.E.E.C. countries have less freedom in setting prices than retailers in the United States. Some important factors affecting retailers' pricing policies for individual items are: (1) Availability of supply and the cooperation of the supplier or commodity industry in sales promotion campaigns; (2) consumer acceptance and potential rate of sales; (3) competitive situation with other retailers and their pricing policies in the area; and (4) prevailing labor costs.

Markets with high wage levels generally tend to have high retail-store price spreads.

Differences in price spreads among countries may be due to variations in marketing services rendered, wage rates, and amount of government aid or influence. Another cause of price spread variations among countries may be the different methods of data collection. Perhaps if uniform research techniques and procedures were used for all the countries, some of the differences in spreads would be narrowed.

PRICES AND PRICE SPREADS FOR BEEF, EGGS, AND FLUID MILK IN SELECTED MARKETS OF THE UNITED STATES AND EUROPE

By

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INTRODUCTION

With gains in marketing efficiency both here and abroad, farmers, consumers, and various economic and legislative groups have been increasingly interested in returns to farmers and in prices to consumers for food products in various countries. Many may ask how farmers and consumers are faring in other countries. The purpose of this report is to compare some price spreads and prices for selected animal food products in the United States and certain European countries, and to interpret some of the differences.

European countries included in this study are Norway, Sweden, Denmark, Netherlands, Belgium, United Kingdom, Ireland, France, West Germany, Austria, Italy, and Greece.

The U. S. Department of Agriculture publishes information on components of farm-to-retail price spreads for various food commodities, among which are animal products--beef, eggs, and milk. 1/ Similar information for selected European countries was published by the European Productivity Agency of the Organization for European Economic Cooperation (O.E.E.C.). 2/ This information does not necessarily represent each country as a whole, but it does indicate some major characteristics of trade in large urban areas. Data for most countries relate to individual cities or groups of cities. In some countries, individual cities may represent urban marketing in the country as a whole.

Prices and price spreads may be used with caution, to indicate the relative efficiency with which animal products are marketed in different countries. Price-spread data used in this report are affected by various factors, such as the following:

(1) Methods of marketing and characteristics of a commodity may differ not only between countries but between major markets within a country.

(2) Prices and price spreads for various commodities in given markets will vary from stated figures according to product description. For example, prices usually differ between large and medium-size eggs, or between grade A and grade B eggs.

1/ U. S. price and price spread information from The Marketing and Transportation Situation, MTS-124, Agr. Mktg. Serv., U. S. Dept. Agr., January 1957. Similar price-spread articles have appeared in each January issue of this publication since 1957.

2/ Data for the European markets were obtained from the following publication of the European Productivity Agency: Documentation in Food and Agriculture, 1959 Series--No. 15, Marketing and Distribution Margins in O.E.E.C. Countries for Livestock and Meat; No. 16, Marketing and Distribution Margins in O.E.E.C. Countries for Eggs; and No. 24, Marketing and Distribution Margins in O.E.E.C. Countries for Milk and Milk Products.

(3) The amounts and kinds of government aid to or influence on marketing may differ.

(4) Marketing systems may be elaborate in one country, but simple in another.

(5) The unit of sale and value of the unit of currency may differ among countries.

(6) Systems of data collection may differ among countries and among markets.

Prices and price spreads are converted in this report to units of sale commonly used in the United States. All data have been converted to their approximate equivalents in U. S. dollars, based upon the official rates of exchange in 1956 for each country.

Retail prices for beef, eggs, and milk averaged higher in the United States than in most O.E.E.C. markets (table 1). Prices for beef and eggs in individual U. S. markets were within the range of prices reported for the O.E.E.C. markets, but retail prices for milk were much higher in the United States than in any of the European markets (figures 1, 2, and 3).

Farm-to-retail price spreads for all these animal products were wider in the United States than in any of the European markets, except that the farm-to-retail price spread for eggs was wider in Greece than in the United States.

When prices and price spreads for beef, eggs and milk are adjusted for differences in the purchasing power of industrial workers, they are generally less in the United States than in Europe. Industrial workers earned wages equal to retail prices or farm-to-retail price spreads for these animal products in less time in the United States than in most European countries (table 2). The range of labor-time requirements for eggs was wider than for either beef or milk (figures 4, 5, and 6).

In some countries, subsidies are paid producers or marketing firms or both, to increase prices received by producers or to lower prices paid by consumers. If relevant data are adjusted to eliminate the effect of subsidies, then beef, eggs, and milk are less expensive in terms of purchasing power of industrial workers in the United States than in any of the European countries.

In some countries retailers have less freedom in setting prices than they do in the United States. In this country prices and price spreads on individual commodities tend to vary both within and among cities, largely because of retail-store pricing policies. Retailers often feature certain commodities as special sales attractions with low price spreads, at the same time adjusting markups on other commodities to achieve a satisfactory average gross price spread on all sales. Some factors affecting retailers' pricing policies for individual items are: (1) Availability of supply and the cooperation of the supplier or commodity industry in sales promotion; (2) consumer acceptance and potential rate of sales; (3)competitive situation with other retailers and their pricing policies in the area; and (4) prevailing labor costs.

Table 1.--Retail prices and farm-to-retail price spreads for beef, eggs, and milk in the United States and Europe (O.E.E.C. countries), 12-month period, 1955-56 1/

Country	Retail price of--2/			Farm-to-retail price spread for--		
	1 pound beef 3/	1 dozen eggs	1 quart milk	1 pound beef 3/	1 dozen eggs	1 quart milk
	Cents	Cents	Cents	Cents	Cents	Cents
United States	66	4/64.5	23.3	24.5	4/22.7	12.7
Norway	44	61.8	6.7	8.8	21.3	3.5
Sweden	42	58.2	11.4	16.5	17.9	5.3
Denmark	37	48.9	9.3	13.9	11.4	4.2
Netherlands	41	50.5	8.3	13.0	9.9	3.1
Belgium	52	61.0	13.3	19.4	9.6	8.2
United Kingdom	5/	61.2	14.6	5/	13.0	4.5
Ireland	34	42.3	5/	13.4	10.9	5/
France	65	5/	13.2	19.0	5/	6.7
West Germany	49	59.9	11.5	15.4	17.1	5.2
Austria	40	5/	9.3	13.0	5/	3.2
Switzerland	69	79.8	5/	20.0	16.8	5/
Italy	58	65.3	13.6	21.5	13.4	5.3
Greece	44	76.0	13.7	12.5	30.2	4.6

1/ O.E.E.C.--Organization for European Economic Cooperation. The 12-month period differed between countries.

2/ Excludes consumption taxes for beef and milk.

3/ Weighted average of retail cuts of beef typical for the country specified.

4/ Five-city U. S. average for Atlanta, Baltimore, New York, Chicago, and Los Angeles. See table 4.

5/ Not available.

U. S. data from The Marketing and Transportation Situation, MTS-124, Agricultural Marketing Service, U. S. Department of Agriculture, January 1957.

O.E.E.C. data from Documentation in Food and Agriculture, 1959 series, Nos. 15, 16, and 24.

Labor is one of the major operating-cost items for retailers. Retail-store price spreads in general are strongly influenced by wage levels. Markets with high wage levels tend to have high retail-store price spreads.

We may draw inferences regarding the comparative efficiency of distribution of selected products among countries by assuming that prices and price spreads are measures of the efficiency of marketing systems. However, other factors, such as government subsidies, levies, and taxes, as well as government price policies for individual products, could affect the validity of these assumptions. Thus, substantially different conclusions might be drawn if prices and price spreads could be fully adjusted for the effects of these other factors.

One basis for determining whether a price is high or low is the consumer's ability to purchase; that is, the consumer's wages and income. Whether price spreads are high or low depends largely on the costs for labor, equipment, and facilities.

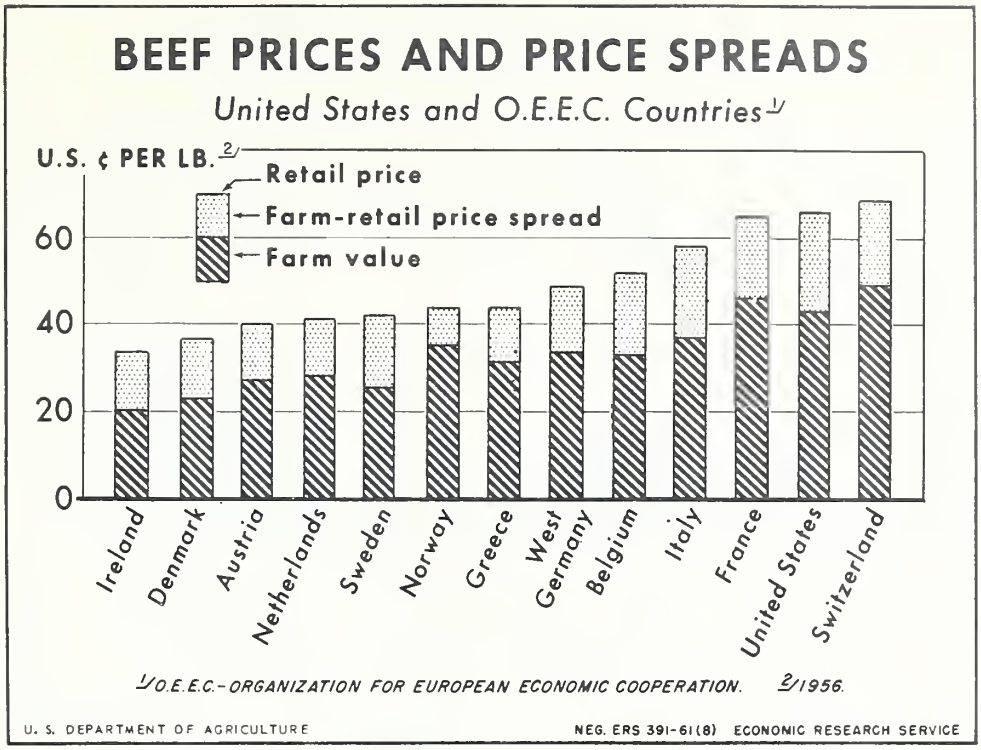

Figure 1

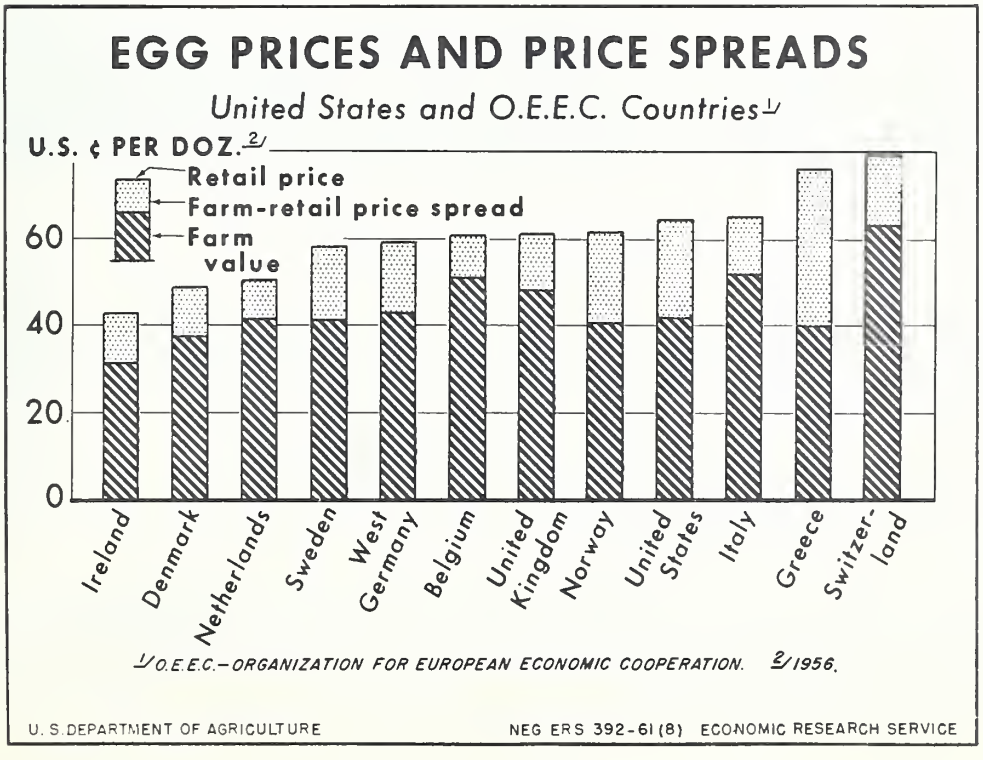

Figure 2

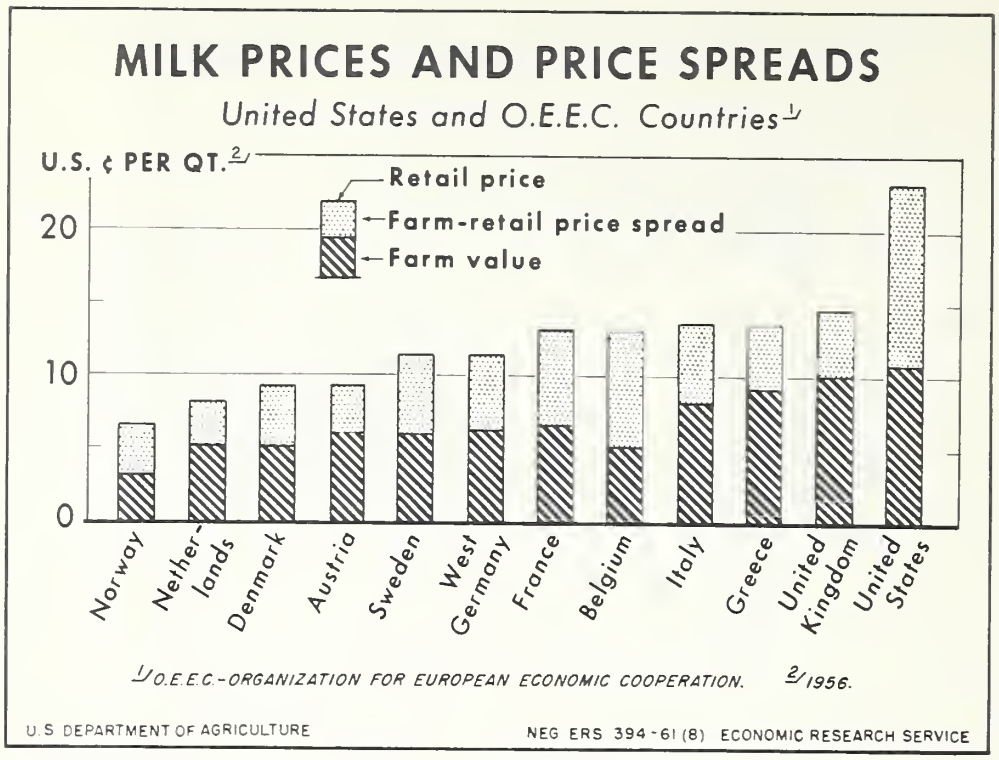

Figure 3

Monetary values are but one basis for measuring comparative marketing efficiencies among countries. Another basis would be physical input-output measures, but these were not available in published form for the period studied. Measured by price spreads expressed as labor-time requirements, the marketing of animal products is more efficient in the United States than in the O.E.E.C. countries.

Price Spreads for Beef

Retail prices for a pound of beef in the countries studied ranged from 34 cents in Ireland to 69 cents in Switzerland (table 1). They were relatively low in Denmark, Austria, Sweden, and the Netherlands, and relatively high in the United States, France, and Italy (figure 1).

The farm-to-retail price spreads per pound for retail cuts of beef ranged from 8.8 cents in Norway to 24.5 cents in the United States; it was relatively low in Austria, Ireland, and the Netherlands.

The components of the farm-to-retail price spread (the packer-wholesaler spread and the retail-store spread as shown in table 3), calculated on a carcass-weight basis, vary considerably among countries. Table 3 gives the price spread in a major market of each country.

Table 2.--Wages of industrial workers and labor-time required to earn wages equal to retail price and farm-to-retail price spread for beef, eggs, and fluid milk, United States and Europe (O.E.E.C. countries), 12-month period, 1955-56 1/

Country	Wages 2/		Labor-time required to earn wages equal to farm-to-retail spread for--			Labor-time required to earn wages equal to retail price for--		
	Per hour	Per minute	1 pound beef	1 dozen eggs	1 quart milk	1 pound beef	1 dozen eggs	1 quart milk
	Dollars	Cents	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes
United States	1.98	3.3	7.4	6.9	3.8	20.0	19.5	7.1
Norway	.72	1.2	7.3	17.8	2.9	36.7	51.5	5.6
Sweden	.97	1.6	10.3	11.2	3.3	26.2	36.4	7.1
Denmark	.71	1.2	11.6	9.5	3.5	30.8	40.8	7.8
Netherlands	.43	.7	18.6	14.1	4.4	58.6	72.1	11.9
Belgium	.60	1.0	19.4	9.6	8.2	52.0	61.0	13.3
United Kingdom	.72	1.2	3/	10.8	3.8	3/	51.0	12.2
Ireland	.39	.6	23.3	18.2	3/	56.7	70.5	3/
France	.53	.9	21.1	3/	7.4	72.2	3/	14.7
West Germany	.46	.8	19.2	21.4	6.5	61.2	74.9	14.4
Austria	.33	.6	21.7	3/	5.3	66.7	3/	15.5
Switzerland	.79	1.3	15.4	12.9	3/	53.1	61.4	3/
Italy	.32	.5	43.0	26.8	10.6	116.0	130.6	27.2
Greece	3/	3/	3/	3/	3/	3/	3/	3/

1/ Based on retail prices and farm-to-retail price spreads shown in table 1.
2/ Average for industrial workers in 1956.
3/ Not available.

Wage rates for all countries except Germany are from Statistisches Jahrbuch Für Die Bundesrepublik Deutschland, 1960. Herausgeber: Statistisches Bundesamt/Wiesbaden. Verlag: W. Kohlhammer GMBH/Stuttgart and Mainz. Internationale Übersichten pp. 125-128. Official rates of exchange in 1956 were used for conversion to U. S. dollars. Wage rates for Germany are from General Statistics, O.E.E.C., Paris, France, January 1961.

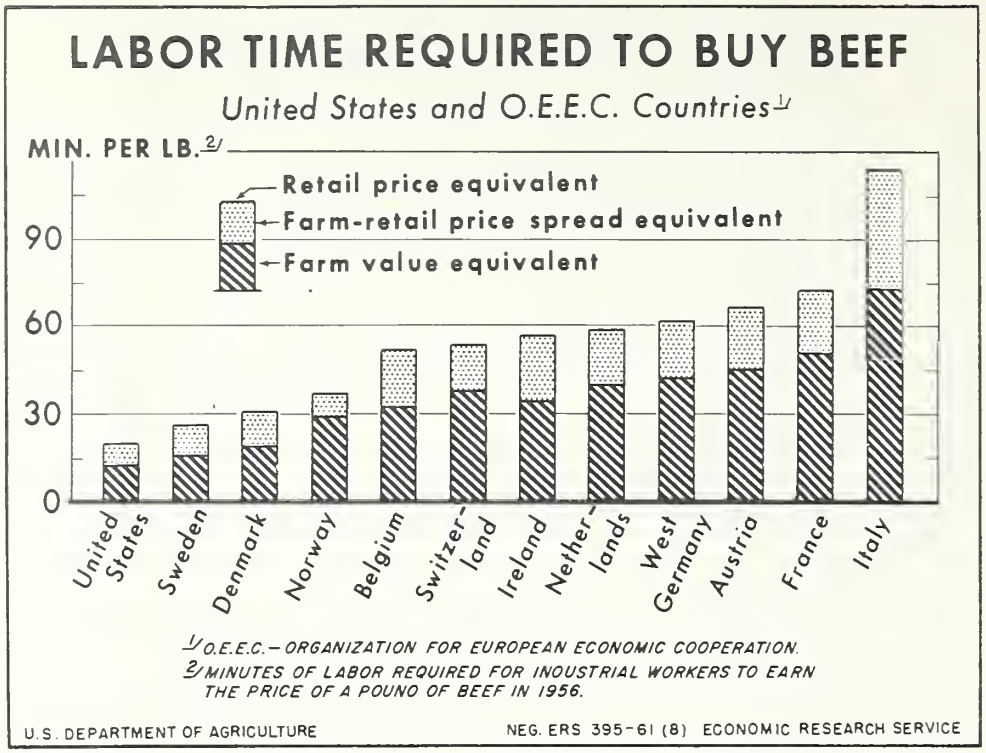

Figure 4

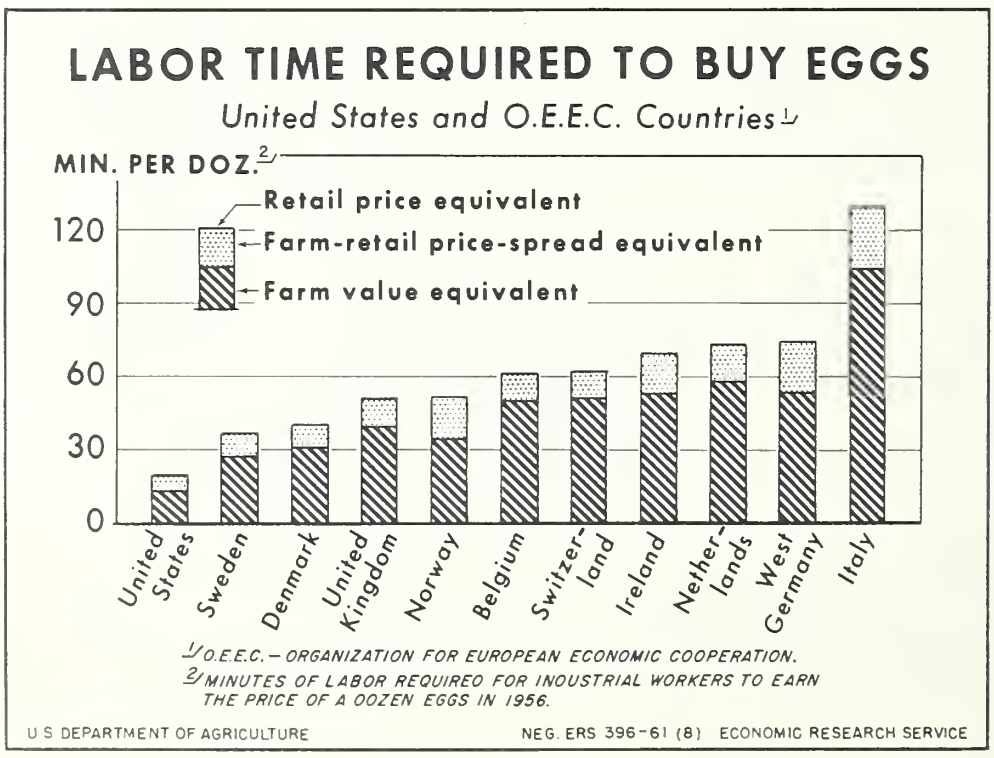

Figure 5

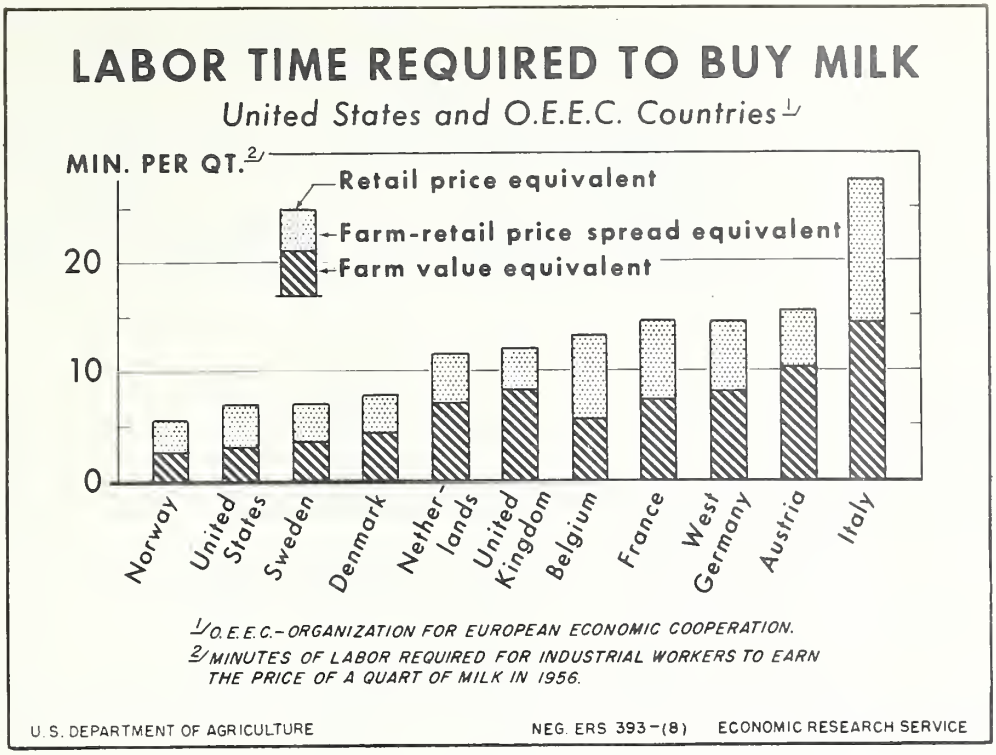

Figure 6

In all countries except Greece, the retail-store price spread was greater than the packer-wholesalers' price spread. About two-thirds to three-fourths of the total farm-to-retail price spread went to retailers. Only about one-fourth to one-third of the spread arose in the stages between the producer and the packer-wholesaler.

Packer-wholesaler price spreads for beef ranged from $1.64 per 100 pounds, carcass weight, in Ireland, an exporting country, to $6.24 in Italy. Price spreads in the United States averaged $3.16 per 100 pounds--about the same as those in Belgium, the Netherlands, Sweden, and Switzerland. The relatively high packer-wholesaler spread for Italy may be due in part to the apparent monopoly position of slaughterers and high slaughtering costs in that country. In contrast, low spreads for Ireland were explained, in part, by the relatively low slaughter costs.

Retail-store price spreads varied more among countries than packer-wholesaler spreads. The lowest was $4.17 per 100 pounds (carcass weight) in Greece and the highest was $16.45 in the United States, a range of $12.28 per 100 pounds (table 3). The price spread in Greece was low, in part, because no retail prices were reported for special cuts of meat. The retail-store spread in Norway averaged $4.39 cents per pound. This low spread was caused primarily by government fixing of retail prices for meat.

Table 3.--Beef: Price spreads per 100 pounds carcass weight, in selected cities in the United States and Europe (O.E.E.C. countries), 1956 1/

Country and city	Farm-to-retail price spread (excluding sales tax)			Sales tax	Gross farm-to-retail price spread (including sales tax)
	Packer-wholesaler 2/	Retail store 3/	Total		
	Dollars	Dollars	Dollars	Dollars	Dollars
United States (Chicago)	3.16	16.45	19.61	---	19.61
Austria (Vienna)	2.38	7.97	10.35	2.28	12.63
Belgium (Brussels)	3.31	12.21	15.52	1.84	17.36
Denmark (Copenhagen)	2.52	8.55	11.07	---	11.07
France (Paris)	4.24	11.01	15.25	6.30	21.55
West Germany (8-city average) 4/	2.69	9.57	12.26	2.16	14.42
Greece (Athens)	5.83	4.17	10.00	---	10.00
Ireland (Dublin)	1.64	9.09	10.73	---	10.73
Italy (Rome)	6.24	10.96	17.20	4.10	21.30
Netherlands (The Hague)	3.61	6.84	10.45	---	10.45
Norway (Oslo)	2.63	4.39	7.90	4.90	11.92
Sweden (Stockholm)	3.95	9.23	13.18	---	13.18
Switzerland (Berne)	3.28	12.72	16.00	---	16.00

1/ European data were computed from Marketing and Distribution Margins for Livestock and Meat in O.E.E.C. Countries, the European Productivity Agency, Food and Agriculture Documentation, 1959 Series, No. 15, page 27, table 9. They were reported in U. S. dollars per 100 kilograms, carcass weight, and have been converted to U. S. dollars per 100 pounds carcass weight.

2/ Covers costs of transporting the animal from farm to livestock market, feeding and selling animal at the market, slaughtering, cooling, veterinary inspection of the carcass, and sale of the carcass.

3/ Covers costs of transporting the carcass from packer-wholesaler to retailer, cutting up the carcass, and sale to the consumer.

4/ The 8 cities were Hamburg, Hanover, Braunschweig, Essen, Cologne, Munich, Nurnberg, and Frankfurt.

Differences in price spreads among countries may be due partly to variations in marketing services rendered. For example, the relatively high retail-store spread in Chicago can be partially explained by the more extensive retail services rendered, and associated marketing costs (table 3). The American housewife can usually find a large variety of conveniently packaged and prepared cuts of beef and other meats. The fresh meats are held under refrigeration continuously after slaughter, and most of them are aged scientifically under controlled temperature and humidity. Many retail cuts of beef are boned and closely trimmed. In contrast, many markets in O.E.E.C. countries have less continuous refrigeration in commercial channels, little or no scientific aging of meats, little or no boning, and very little trimming and prepackaging of retail cuts of meat.

Another factor affecting differences in price spreads among countries was wage rates. Relatively high wages in the United States were associated with the high retail-store spreads in Chicago (table 2). Retail-store spreads were also high in Switzerland, Belgium, France, and Italy (table 3). High retail-store spreads in Switzerland were reported to be associated with high wage levels (see reference in footnote 2). Reasons for the high retail-store spreads in Italy were not known, but they were not reported to be associated with high wage levels; wages for industrial workers in Italy were the lowest among the O.E.E.C. countries reporting.

Retail prices for beef in Ireland were the lowest of the 12 O.E.E.C. countries, and little more than half as much as in the United States (figure 1). Wages of industrial workers in Ireland were low compared to wages in most of the O.E.E.C. countries, and were about one-fifth as high as in the United States. Industrial workers in Ireland had to work nearly three times as long as workers in the United States to earn wages equal to the retail price of a pound of beef (figure 4).

Farm-to-retail price spreads for marketing beef, when measured in terms of labor-time required for industrial workers to earn an equivalent amount of money, were generally lower in the United States than in the O.E.E.C. countries.

In addition to differences in market structures and practices, and in marketing services for distributing beef in O.E.E.C. countries and the United States, there may be differences in quality and product description. Retail prices and price spreads in U. S. cities are based on U. S. Choice grade beef. In O.E.E.C. countries, prices and price spreads are based on figures for animals of good meat quality.

Prices and Price Spreads for Large Eggs

Prices for eggs varied less among 5 major cities in the United States than among selected markets in 11 European countries (table 4). Retail prices for a dozen eggs in the U. S. cities averaged about 4 cents higher than in the O.E.E.C. markets. In contrast, prices paid to farmers in principal supply areas averaged three cents a dozen lower in the U. S. cities. The range in both retail and farm prices was more than three times as wide among European as among United States markets.

Prices for eggs in the U. S. cities are tied largely to a dominant base quotation pricing system. Although some type of quotation pricing system prevails in many O.E.E.C. markets, there does not appear to be a dominant quotation which transcends national boundaries. Some factors influencing the greater uniformity of egg prices among the U. S. cities are: (1) Highly developed transportation systems and competitive pricing of services for moving supplies between markets; (2) lack of interstate tariff barriers; and (3) possibilities of arbitrage.

Table 4.--Eggs: Prices and price spreads per dozen, selected markets in the United States and Europe (O.E.E.C. countries), 12-month period, 1955-56 1/

Country	Price		Price spread 2/		
	Retail	Farm	Farm-to-retail	Retail store	Farm-to-retailer
	Cents	Cents	Cents	Cents	Cents
United States:					
Atlanta	63.2	44.0	19.2	6.4	12.8
Baltimore	67.8	43.6	24.2	7.0	17.2
New York	71.1	41.6	29.5	9.7	19.8
Chicago	61.1	35.4	25.7	5.9	19.8
Los Angeles	59.4	44.2	15.2	8.1	7.1
5-city average	64.5	41.8	22.7	7.4	15.3
Europe (O.E.E.C. countries):					
Norway (Oslo)	3/61.8	40.5	3/21.3	3/13.4	7.9
Sweden (Stockholm)	58.2	40.3	17.9	10.9	7.0
Denmark (Copenhagen)	48.9	37.5	11.4	7.3	4.1
Netherlands	50.5	40.6	9.9	4.5	5.4
Belgium	61.0	51.4	9.6	4.8	4.8
United Kingdom	61.2	4/48.2	13.0	6.8	6.2
Ireland (Dublin)	42.3	31.4	10.9	4.7	6.2
West Germany	5/59.9	42.8	17.1	7.1	10.0
Switzerland	79.8	63.0	16.8	7.0	9.8
Italy (Milan)	65.3	51.9	13.4	5.7	7.7
Greece (Athens)	76.0	45.8	30.2	10.0	20.2
11-market average	60.4	44.8	15.6	7.5	8.1

1/ O.E.E.C.--Organization for European Economic Cooperation. The 12-month period differed among countries but generally included a stretch between mid-1955 and mid-1956. Retail prices are for the principal category of eggs appearing on the market; in the United States it was large, grade A cartoned eggs, whereas in the European markets it was prime, new-laid eggs.

2/ Price spreads: Farm-to-retail--the difference between retail-store selling price and price to farmer; retail store--the difference between retail-store selling price and retail-store buying price; farm-to-retailer--the difference between retail-store buying price and price to farmer.

3/ Retail price includes turnover tax (a form of sales tax) of 6.1 cents. Without this tax, retail-store spread would be 7.3 cents and farm-to-retail spread would be 15.2 cents.

4/ Farm price excludes subsidy. Farmers received, in addition to their market price, a government subsidy of 9.1 cents a dozen.

5/ Includes turnover tax.

Egg prices, with few exceptions, were generally determined by prevailing supply and demand situations for most markets. Some factors influencing competition included the effects of imports and exports under existing conditions of international trade, as well as purchases by government and other institutions. Exceptions occurred in the United Kingdom and to some extent in Greece, Belgium, and Switzerland.

In the United Kingdom, the government guaranteed minimum fixed prices to producers, and minimum price spreads to licensed packers to cover costs of grading and packing. In Greece, there was a variable ceiling on retail prices. Imports of eggs in Belgium were not allowed at less than a fixed price. If egg prices tended to fall in Switzerland because of surplus production, the government fixed a price designed to stabilize producer prices. Except for these limitations, prices in Greece, Belgium, and Switzerland were allowed to seek their own level according to supply and demand.

There are differences in quality and in product description as well as differences in market structures and practices for distributing eggs in markets of various countries of Europe and the United States. Retail prices in the U. S. cities were for grade A, large eggs, while in most markets of the O.E.E.C. countries these prices were for the category of prime, new-laid eggs. Presumably, the two categories are reasonably comparable. Retail prices in the U. S. cities were for cartoned eggs, but in most O.E.E.C. markets they were generally for loose eggs. If an allowance of 3 to 4 cents is made for cartoning eggs in the United States, then the 5-city average retail price adjusted downward by this amount would approximate the average for the 11 O.E.E.C. markets. It is possible that, because of differences among the laws and regulations pertaining to the marketing of eggs, quality standards varied more among the O.E.E.C. markets than among the U. S. markets.

In the 5 U. S. cities, farm-to-retail price spreads for eggs in 1955-56 were within the range of similar gross spreads in major market areas of 11 O.E.E.C. countries (table 4). However, these gross price spreads averaged about 7 cents a dozen higher for the U. S. cities than for the markets of the O.E.E.C. countries. Farm-to-retail price spreads in the U. S. cities ranged from 15.2 to 29.5 cents a dozen, and averaged 22.7 cents. Similar spreads in the European markets ranged from 9.6 to 30.2 cents a dozen and averaged 15.6 cents. These price spreads averaged about 35 percent of retail prices among the U. S. cities compared with about 26 percent for the O.E.E.C. markets.

Retail-store price spreads in the U. S. cities were similar to those in many of the European markets (table 4). Retail-store spreads, as percentages of retail prices, averaged 11.5 percent for the U. S. cities and 12.4 percent for the European markets. The difference of 0.9 percentage point between these averages would be nullified by excluding the effect of the turnover tax (a form of sales tax) in Norway. Los Angeles and Stockholm which had some of the highest retail-store spreads as percentages of retail prices among their respective geographical groupings, also had the highest average hourly wages in their respective groupings.

Actual farm-to-retail price spreads averaged considerably higher for the United States than for the European markets. However, when measured in terms of the labor-time requirements, farm-to-retail price spreads for eggs averaged lower in the United States than in any of the O.E.E.C. countries.

Farm-to-retailer spreads in all U. S. cities except Los Angeles were higher than similar spreads in all European markets except Athens (table 1).

When measured in terms of the labor-time required to earn enough money to buy them, eggs were more of a luxury item to industrial workers in the O.E.E.C. countries than in the United States. For example, in 1956 industrial workers in Italy had to work about six times as long as those in the United States to earn wages equal to the retail price or the farm-to-retail price spread of a dozen eggs (figure 5). Actual retail prices of eggs, however, were nearly the same in both countries (figure 2).

European countries with the lowest farm-to-retailer price spreads generally had high densities of egg production. In addition, frequently they exported substantial proportions of their domestic egg production. Denmark exported about 75 percent and the Netherlands more than half of their respective domestic egg production. In the United States, cities such as Los Angeles, with dense nearby production and more direct systems of marketing to retail stores, also tend to have low farm-to-retailer price spreads.

Price Spreads for Fluid Milk

In some countries--Norway, for example--all of the milk used by household consumers is sold through retailers. In others, including the United States, half of the milk used by household consumers is delivered to the domicile. Government influences on market structures for milk distribution vary from a government-owned monopoly for processing and distributing (Italy) to free market entry (Netherlands and United States). Austria and Norway permit only one processor, with assigned producers, in each market.

Degree of government regulation ranged from complete (Austria, West Germany Italy, and Norway) to very limited (Belgium). In Sweden, fluid milk sales subsidize sales of manufactured dairy products, while in Denmark fluid milk sales are subsidized by sales of cream. Direct government subsidies to producers for milk vary from nothing in most countries to 56 percent of total producer receipts in Norway.

In fact, it may be said that the only things common to all countries are that milk is produced on farms, processed, and sold to consumers. Consequently comparisons based on the amounts of retail prices, farm-to-retail price spreads, and farm prices have limitations. Retail prices per quart ranged from 6.7 cents in Norway to 23.3 cents in the United States (table 5). For four of the O.E.E.C. countries, retail prices fell within the narrow range of 13.2 to 13.7 cents a quart. Gross farm-to-retail price spreads ranged from 3.2 cents in Austria to 12.7 cents in the United States. These spreads among the O.E.E.C. countries generally differed no more than 5 cents. Farm prices ranged from 5.1 cents in Denmark and Belgium to 10.6 cents in the United States.

Assuming that price-spread data were measures of efficiency of marketing systems, it might be concluded that the fluid milk industry was most efficient in Norway and least efficient in the United States in 1956 (figure 3). However, other factors must be considered. For example, in Norway, there was a government subsidy of about 4.1 cents a quart; without this subsidy either the consumer price would rise from 6.7 cents to 10.7 cents plus tax or the producer price would fall from 7.3 cents to 3.2 cents. This indicates that without government subsidies, the dairy industry was more efficient in the Netherlands and Denmark than in Norway. Other taxes, levies, and subsidies, as well as government price policies on individual dairy products, also change comparisons based upon actual money amounts.

Table 5.--Milk: Retail prices, farm values, and farm-to-retail price spreads per quart, United States and Europe (O.E.E.C. countries), 1956

Country	Retail price			Farm value			Farm-to-retail price spread (excluding retail tax and farm subsidy)		
	Total	Tax	Less tax	Total	Subsidy	Less subsidy	Gross	Subsidy or levy	Net
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Norway	7.42	0.75	6.67	7.30	4.07	3.23	3.44	---	3.44
Netherlands	8.33	---	8.33	5.18	---	5.18	3.15	1/ 1.42	4.57
Denmark	9.27	---	9.27	5.14	---	5.14	4.14	---	4.14
Austria	9.46	.16	9.30	7.83	1.82	6.06	3.24	---	3.24
Sweden	12.43	1.00	11.43	6.08	---	6.08	5.35	---	5.35
West Germany	11.48	---	11.48	6.31	---	6.31	5.17	2/ .67	4.50
France	13.25	---	13.25	6.54	---	6.54	6.71	---	6.71
Belgium	13.31	---	13.31	5.14	---	5.14	7.58	---	7.58
Italy	13.63	---	13.63	8.33	---	8.33	5.30	---	5.30
Greece	13.66	---	13.66	9.11	---	9.11	4.54	---	4.54
United Kingdom	14.59	---	14.59	10.07	---	10.07	4.52	---	4.52
United States	23.30	---	23.30	10.60	---	10.60	12.70	---	12.70

1/ Subsidy to fluid milk processors.
2/ Levy on dairies.

Industrial workers could earn the price of a quart of milk in less time in the United States than in any of the O.E.E.C. countries except Norway (table 2). Purchasing power among industrial workers in the O.E.E.C. countries varied widely--from 5.6 minutes of work in Norway to 27.2 minutes in Italy to buy a quart of milk (figure 6).

In terms of labor-time requirements, farm values of milk (without considering subsidies) were lower in the United States, Sweden, and Denmark than in the other countries. Comparatively low farm values probably result from the fact that dairying is an efficient, low-cost farm enterprise in these three countries.

The farm-to-retail price spread for marketing fluid milk was relatively low in the United States compared with most of the O.E.E.C. countries in terms of labor-time requirements.

In table 6, the retail price of milk is related to per capita expenditures for personal consumption (food, clothing, rent, durable goods, and other items). To provide a basis of comparison, it is assumed that civilian per capita consumption of fluid milk in each country was 142 quarts--the approximate level in the United States in 1956. In Norway the purchase of 142 quarts of milk would take only 1.7 percent of per capita expenditures; in Greece the same amount of milk would take 8.0 percent.

The degree of government regulation did not, in itself, appear to have much effect on price spreads for milk in the individual countries. Four countries--Norway, West Germany, Austria, and Italy--have complete government control. In these countries retail prices of milk as a proportion of earnings and expenditures of consumers were 4th, 7th, 9th, and 10th highest in the group of 11 countries. Considering only farm-to-retail price spreads, the countries with complete government regulation ranked 4th, 6th, 7th, and 10th. In relative terms Italy, with municipally operated dairy plants, had the highest price spreads for marketing milk.

Price spreads appear to be more closely tied to the scale of dairy operations in the individual countries. On an overall basis the dairy industry's price spreads were lowest in those countries where dairying was a major industry--for example, Denmark and the United States.

Table 6.--Retail price of milk, per capita expenditures for personal consumption, and percentage of per capita expenditures for milk, United States and Europe, (O.E.E.C. countries) 1956 1/

Country	Per capita expenditures 1/	Retail price		Price for 142 quarts of milk as percentage of per capita expenditures
		Per quart	For 142 quarts 2/	
	Dollars	Cents	Dollars	Percent
Norway	626	3/7.4	10.51	1.7
Denmark	690	9.3	13.21	1.9
United States	1,579	23.3	33.09	2.1
Sweden	796	3/12.4	17.61	2.2
Belgium	818	13.3	18.89	2.3
France	820	13.2	18.74	2.3
Netherlands	469	8.3	11.79	2.5
United Kingdom	739	14.6	20.73	2.8
West Germany	509	11.5	16.33	3.2
Austria	387	3/9.5	13.49	3.5
Italy	329	13.6	19.31	5.9
Greece	244	13.7	19.45	8.0

1/ Personal consumption--for food, clothing, rent, durable goods, and other goods.
2/ Civilian per capita consumption of fluid milk in the United States in 1956.
3/ Gross retail price, including tax.

Per capita expenditures for personal consumption are derived from: (1) 1957 Yearbook of Food and Agricultural Statistics, Food and Agriculture Organization of the United Nations, Rome, Italy, 1958, page 13, table 3; (2) General Statistics, O.E.E.C. Statistical Bulletins, Part II, Paris, France, January 1961; (3) International Financial Statistics, International Monetary Fund, Volume XIV, No. 6, page 18, Washington, D. C., June 1961. United States civilian per capita consumption of fluid milk is derived from The Dairy Situation, DS-283, Agricultural Marketing Service, U. S. Department of Agriculture, April 1961.

APPENDIX

Government Regulations of the Dairy Industry in 1956

Austria.--Complete government regulation. All prices and price spreads were fixed; farmers were assigned to individual distributors; distributors were assigned definite sales territories. Prices paid to farmers were equalized regardless of end use of milk. Consumers were assessed a sales tax. Dairies contributed to a dairy fund and transport assessment fund. Farmers received a direct government subsidy.

Belgium.--Limited government regulation. "Basic" prices were determined for raw milk but they were not fixed; distributors were licensed. Consumers paid no assessment and farmers received no subsidy.

Denmark.--Limited government regulation. Prices paid farmers were determined each week by the National Dairy Federation on the basis of export price for butter. Wholesale and retail prices were set by municipal authorities. Milk was sold at a loss; this loss was offset by profits on cream. (Cream sales, in milk equivalent, were about half as much as whole milk sales.) Consumers paid no assessment and farmers received no subsidy.

France.--Limited government regulation. Farm price was fixed within limits; retail price was fixed. Consumers paid no assessment and farmers received no subsidy.

West Germany.--Complete government regulation. All prices and price spreads were fixed; farmers were assigned to specific country receiving stations or to specific city dairies; country receiving stations were assigned to specific city dairies; dairies were assigned to specific sales territories. Dairies were assessed a levy by an industry marketing group representing the interests of all its members.

Greece.--Limited government regulation. Retail prices were fixed; dairies were licensed. The dairy industry was relatively unimportant.

Italy.--Complete government regulation. Processsing and distributing facilities were municipally owned; supply areas and sales areas were fixed; maximum retail prices were fixed.

Netherlands.--Limited government regulation. Retail milk price was fixed by the government. Farm prices were equalized as to various end products by the Commodity Board for Dairy Products. Government paid a subsidy to fluid milk processors (mostly cooperatives).

Norway.--Complete government regulation. Retail prices were fixed. In each market a government-sponsored farmer cooperative had exclusive license to process and distribute milk. Government paid a subsidy to farmers.

Sweden.--Limited government regulation. Only one processor and distributor was licensed for each marketing area. Wholesale prices were fixed within a range.

United Kingdom.--Limited government regulation. Complex marketing system. Government fixed prices to both producers and consumers, and paid allowances to marketing agencies.

United States.--Limited government regulation. Minimum farm, wholesale, and retail prices were fixed by 13 States; minimum producer prices only were fixed by 5 additional States. Federal market orders established minimum farm prices in individual marketing areas. Federal and State agencies established minimum prices to farmers which probably cover about 75 percent of the milk sold for fluid use. State agencies established minimum wholesale and retail prices which probably cover about 30 percent of the fluid milk purchased by consumers.